

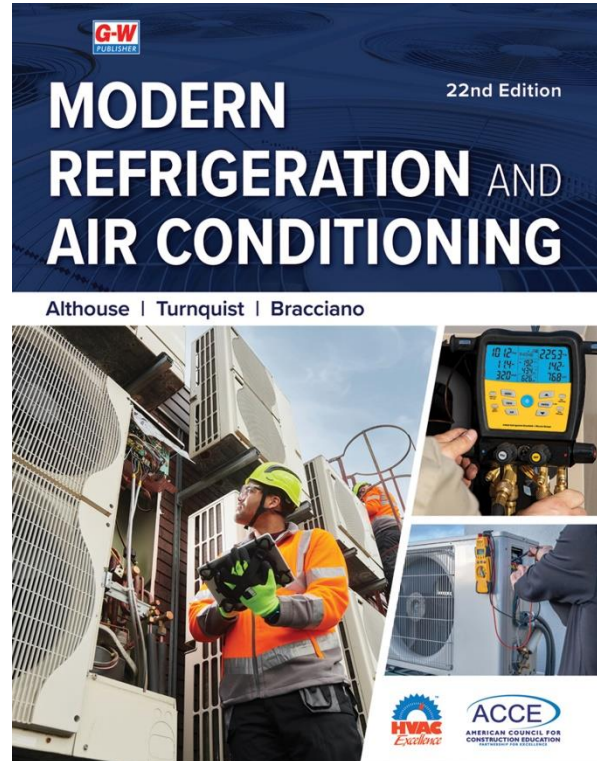


Correlation of
Modern Refrigeration and Air Conditioning, Althouse, Turnquist, Bracciano
(Goodheart-Willcox Publisher ©2025)
to
AHRI Curriculum Guide XV. Air Handling

Goodheart-Willcox is pleased to partner with the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) and the American Council for Construction Education (ACCE) by correlating *Modern Refrigeration and Air Conditioning* to the AHRI Curriculum Guide. The following chart correlates *Modern Refrigeration and Air Conditioning* to a section of the Curriculum Guide developed by AHRI used for ACCE (formerly PAHRA) accreditation.

The chart lists the Curriculum Guide’s knowledge and task competency objectives in the left column and the corresponding chapter numbers from *Modern Refrigeration and Air Conditioning* in the right column.

For more information on the American Council for Construction Education (ACCE) and related accreditation, please visit: www.acce-hq.org



XV.A. Air Flow Principles/Duct Design	
Knowledge	Textbook Chapter(s)
1. Draw layout of return and supply runs.	Chapter 30
2. Calculate equivalent length of trunk and branch ducts.	Chapter 30
3. Calculate total effective length of duct runs.	Chapter 30
4. Calculate total available static pressure.	Chapter 30
5. Size trunk and branch ducts by equal friction method.	Chapter 30
6. Use duct calculator to find duct size, velocity, cfm, and friction loss.	Chapter 30

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XV.A. Air Flow Principles/Duct Design (continued)	
Knowledge	Textbook Chapter(s)
7. Calculate airflow factors for heating and cooling.	Chapters 28, 30, 31
8. Size registers, grilles, and diffusers.	Chapter 30
9. Fabricate fittings.	—
10. Fabricate a “HAND” Pittsburgh.	—
11. Fabricate “HAND” slips and drives.	—
12. Identify and use all basic handheld sheet metal tools.	Chapters 4, 30, 31
13. Identify and use all basic handheld tools for duct board.	Chapters 4, 30, 31
XV.B. Mechanical and Electronic Filtration	
Knowledge	Textbook Chapter(s)
1. Identify types of mechanical filters:	
a. disposable	Chapter 29
b. permanent foam, mesh, and fiber	Chapter 29
c. high efficiency	Chapter 29
d. HEPA	Chapter 29
e. electrostatic	Chapter 29
2. Describe operation of electronic air cleaners.	Chapter 29
Tasks	Textbook Chapter(s)
1. Install air cleaner system into existing ductwork.	Chapter 29
2. Remove and clear prefilter and cells:	
a. check ionizer wires	Chapters 29, 31
b. test power pack	Chapters 29, 31
XV.C. Fans/Blowers	
Knowledge	Textbook Chapter(s)
1. Identify different types of fans/blowers:	
a. centrifugal	Chapters 30, 33
b. axial	Chapters 30, 33
2. Determine the proper direction of rotation.	Chapters 30, 33
3. Explain the difference between tubeaxial and vaneaxial.	—

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XV.C. Fans/Blowers (continued)	
Knowledge	Textbook Chapter(s)
4. Identify the types of centrifugal fans/blowers:	
a. forward curved	Chapters 30, 33
b. backward curved	Chapters 30, 33
c. air foil	Chapters 30, 33
d. radial tip	Chapters 30, 33
Tasks	Textbook Chapter(s)
1. Check for proper rotation.	Chapters 30, 33
2. Interpret the fans/blowers curve.	Chapters 30, 33
3. Select the fans/blowers via the curve.	Chapters 30, 33
4. Check fans/blowers performance via curves.	Chapters 30, 33
5. Check amp draws.	Chapters 14, 16, 17, 19, 30, 31, 33